

Amendments to the Claims:

- 1 1. (currently amended) In a computer system on which one or more applications
2 execute, ~~wherein a first application configuration is defined by first application~~
3 ~~configuration information, the first application configuration providing for~~
4 ~~execution of the application,~~ a computer-implemented method for reconfiguring
5 ~~[[the]]~~ an application without restarting the computer system, comprising:
6 wherein a first application configuration is defined by first application
7 configuration information, the first application configuration information
8 specifying application classes for execution of the application according to
9 the first application configuration;
10 reading second application configuration information defining a reconfigured
11 version of the application, the second application configuration
12 information specifying application classes for execution of the application
13 according to the reconfigured version of the application;
14 constructing a second application configuration based on the second application
15 configuration information; and
16 providing the second application configuration to an application runtime
17 environment for servicing new requests related to the application while
18 maintaining the first application configuration for servicing, concurrently
19 with the servicing of new requests based on the second application
20 configuration, existing requests related to the application.
- 1 2. (original) The method of claim 1, further comprising:
2 destroying the first application configuration upon completion of all application
3 service requests using the first application configuration, whereby

4 computer system resources used to maintain the first application
5 configuration are made available for other uses.

1 3. (original) The method of claim 1, further comprising:
2 accessing persistent session information related to an existing application user
3 session to use for servicing new requests from the same user during the
4 existing application user session.

1 4. (original) The method of claim 1, further comprising:
2 determining that the second application configuration successfully initialized prior
3 to providing the second application configuration to the runtime
4 environment for servicing new requests.

1 5. (original) The method of claim 4, wherein the step of determining that the second
2 application configuration successfully initialized is based on a communication
3 from the application runtime environment.

1 6. (original) The method of claim 1, further comprising:
2 receiving a request to reconfigure the computer system; and
3 reconfiguring the computer system in response to the request.

1 7. (original) The method of claim 1, wherein constructing the second application
2 configuration is further based on an application runtime environment
3 configuration.

1 8. (original) The method of claim 7 wherein constructing the second application
2 configuration includes:
3 reading a timestamp associated with the second application configuration
4 information; and

5 determining that the second application configuration information is different than
6 the first application configuration information based on the timestamp.

1 9. (original) The method of claim 1 wherein constructing the second application
2 configuration includes:
3 reading a timestamp associated with a class file referenced in the second
4 application configuration information;
5 determining that the class file has changed based on the timestamp; and
6 constructing the second application configuration, at least in part, according to the
7 changed class file.

1 10. (original) The method of claim 1, further comprising:
2 logging one or more messages related to providing the second application
3 configuration to the computer system.

1 11. (original) The method of claim 1, wherein providing the second application
2 configuration comprises:
3 updating a current configuration reference to reference the second application
4 configuration rather than the first application configuration.

1 12. (original) The method of claim 11, wherein updating the current configuration
2 reference is performed atomically.

1 13. (original) The method of claim 1 wherein the first application configuration is
2 maintained for servicing, without interruption, existing requests related to the
3 application from an existing connection.

1 14. (currently amended) In a computer system on which one or more applications
2 execute, wherein a former application configuration is defined by a first

application configuration information and a current application configuration is
 defined by a second application configuration information, the application
 configurations providing for execution of the application, a computer-
 implemented method for processing application service requests, comprising:
wherein the first application configuration information specifies application
classes for execution of the application according to the former application
configuration and the second application configuration information
specifies application classes for execution of the application according to
the current application configuration;
 completing processing, based at least in part on the application classes specified
in the first application configuration information, a pending first request
 for an application service that is associated, via a global variable, with the
 former application configuration;
 receiving a second request for an application service;
 associating, via a global variable, the second request with the current application
 configuration;
 accessing the second application configuration information defining the current
 application configuration; and
 processing the second request ~~according to~~ based at least in part on the application
classes specified in the second application configuration information.

15. (original) The method of claim 14 wherein the pending first request and the
 second request originate from the same user session, and wherein completing
 processing the pending first request and processing the second request are
 performed without restarting the computer system.

- 1 16. (original) The method of claim 14, further comprising:
2 determining whether the first application configuration information is referenced
3 by at least one pending process; and
4 deleting the first application configuration information from the computer system
5 in response to determining that the first application configuration
6 information is not referenced by at least one pending process.
- 1 17. (original) The method of claim 16, wherein the first application configuration
2 information occupies one or more blocks of memory, and wherein deleting the
3 first application configuration comprises:
4 releasing the one or more blocks of memory.
- 1 18. (original) The method of claim 16, wherein determining whether the first
2 application configuration information is referenced by at least one pending
3 process comprises:
4 determining whether a reference count is equal to a predetermined value
5 indicating that no processes are referencing the first application
6 configuration information.
- 1 19. (currently amended) In a computer system on which one or more applications
2 execute, wherein a plurality of application configurations are defined by a
3 plurality of associated application configuration information and one application
4 configuration of the plurality of application configurations is the current
5 configuration associated with a current version of a first application and two or
6 more other application configurations of the plurality of application
7 configurations are former configurations associated with former versions of the

8 first application, a computer-implemented method for processing application
 9 service requests, comprising:
 10 completing processing one or more pending requests for application services that
 11 are associated with any of the former configurations according to
 12 corresponding former configuration information that is associated with
 13 each of the one or more pending requests and that specifies application
 14 classes for execution of the application according to a corresponding
 15 former configuration, wherein the one or more pending requests are
 16 processed based at least in part on the application classes specified in the
 17 corresponding former configuration information;
 18 while completing processing the one or more pending requests,
 19 receiving a new request for an application service,
 20 accessing current application configuration information defining the
 21 current configuration and specifying application classes for
 22 execution of the application according to the current configuration;
 23 and
 24 processing the new request ~~according to~~ based at least in part on the
 25 application classes specified in the current application
 26 configuration information.

1 20. (currently amended) In a computer system on which one or more applications
 2 execute, ~~wherein a current application configuration is defined by a first~~
 3 ~~application configuration information, the current configuration providing for~~
 4 ~~execution of the application,~~ a computer-readable medium comprising
 5 instructions which, when executed by one or more processors, cause the one or

6 more processors to reconfigure [[the]] an application without restarting the
7 computer system, by performing the steps of:
8 wherein a first application configuration is defined by first application
9 configuration information, the first application configuration information
10 specifying application classes for execution of the application according to
11 the first application configuration;
12 reading second application configuration information defining a reconfigured
13 version of the application, the second application configuration
14 information specifying application classes for execution of the application
15 according to the reconfigured version of the application;
16 constructing a second application configuration based on the second application
17 configuration information; and
18 providing the second application configuration to an application runtime
19 environment for servicing new requests related to the application while
20 maintaining the first application configuration for servicing, concurrently
21 with the servicing of new requests based on the second application
22 configuration, existing requests related to the application.

- 1 21. (original) The computer readable medium of claim 20, wherein execution of the
2 instructions by the one or more processors causes the one or more processors to
3 perform:
4 destroying the first application configuration upon completion of all application
5 service requests using the first application configuration, whereby
6 computer system resources used to maintain the first application
7 configuration are made available for other uses.

1 22. (original) The computer readable medium of claim 20, wherein execution of the
2 instructions by the one or more processors causes the one or more processors to
3 perform :

4 accessing persistent session information related to an existing application user
5 session to use for servicing new requests from the same user during the
6 existing application user session.

1 23. (original) The computer readable medium of claim 20, wherein execution of the
2 instructions by the one or more processors causes the one or more processors to
3 perform:

4 determining that the second application configuration successfully initialized prior
5 to providing the second application configuration to the runtime
6 environment for servicing new requests related to the application.

1 24. (original) The computer readable medium of claim 23, wherein execution of the
2 instructions by the one or more processors causes the one or more processors to
3 perform the step of determining that the second application configuration
4 successfully initialized based on a communication from the application runtime
5 environment.

1 25. (original) The computer readable medium of claim 20, wherein execution of the
2 instructions by the one or more processors causes the one or more processors to
3 perform:

4 receiving a request for reconfiguring the computer system absent any changes to
5 the computer system configuration; and

6 reconfiguring the computer system based on the second application configuration
7 in response to the request.

1 26. (original) The computer-readable medium of claim 20, wherein constructing a
2 second application configuration is based on the second application configuration
3 information and an application runtime environment configuration, and wherein
4 execution of the instructions by the one or more processors causes the one or
5 more processors to perform providing the second application configuration to the
6 server for servicing new requests related to the application according to the
7 second application configuration.

1 27. (original) The computer-readable medium of claim 26 wherein execution of the
2 instructions by the one or more processors causes the one or more processors to
3 perform constructing the second application configuration by performing the steps
4 of:
5 reading a timestamp associated with the second application configuration
6 information; and
7 determining that the second application configuration information is different than
8 the first application configuration information based on the timestamp.

1 28. (original) The computer-readable medium of claim 20 wherein execution of the
2 instructions by the one or more processors causes the one or more processors to
3 perform constructing the second application configuration by performing the steps
4 of:
5 reading a timestamp associated with a class file referenced in the second
6 application configuration information;
7 determining that the class file has changed based on the timestamp; and

8 constructing the second application configuration, at least in part, according to the
9 changed class file.

1 29. (original) The computer readable medium of claim 20, wherein execution of the
2 instructions by the one or more processors causes the one or more processors to
3 perform :
4 logging one or more messages related to providing the second application
5 configuration to the computer system.

1 30. (original) The computer-readable medium of claim 20 wherein execution of the
2 instructions by the one or more processors causes the one or more processors to
3 perform providing the second application configuration by performing the steps
4 of:
5 updating a current configuration reference to reference the second application
6 configuration rather than the first application configuration.

1 31. (original) The computer-readable medium of claim 30 wherein execution of the
2 instructions by the one or more processors causes the one or more processors to
3 perform updating the current configuration reference atomically.

1 32. (currently amended) In a computer system on which one or more applications
2 execute, wherein a former application configuration is defined by a first
3 application configuration information and a current application configuration is
4 defined by a second application configuration information, the application
5 configurations providing for execution of the application, a computer-readable
6 medium comprising instructions which, when executed by one or more

7 processors, cause the one or more processors to process application service
 8 requests, by performing the steps of:
 9 wherein the first application configuration information specifies application
 10 classes for execution of the application according to the former application
 11 configuration and the second application configuration information
 12 specifies application classes for execution of the application according to
 13 the current application configuration;
 14 completing processing, based at least in part on the application classes specified
 15 in the first application configuration information, a pending first request
 16 for an application service that is associated, via a global variable, with the
 17 former application configuration;
 18 receiving a second request for an application service;
 19 associating, via a global variable, the second request with the current application
 20 configuration;
 21 accessing the second application configuration information defining the current
 22 application configuration; and
 23 processing the second request ~~according to~~ based at least in part on the application
 24 classes specified in the second application configuration information.

- 1 33. (original) The computer-readable medium of claim 32 wherein the pending first
 2 request and the second request originate from the same user session, and wherein
 3 execution of the instructions by the one or more processors causes the one or
 4 more processors to perform completing processing the pending first request and
 5 processing the second request without having to restart the computer system.

- 1 34. (original) The computer-readable medium of claim 32 wherein execution of the
2 instructions by the one or more processors causes the one or more processors to
3 perform the steps of:
4 determining whether the first application configuration information is referenced
5 by at least one pending process; and
6 deleting the first application configuration information from the computer system
7 in response to determining that the first application configuration
8 information is not referenced by at least one pending process.
- 1 35. (original) The computer-readable medium of claim 34, wherein the first
2 application configuration information occupies one or more blocks of memory,
3 and wherein execution of the instructions by the one or more processors causes
4 the one or more processors to perform deleting the first application configuration
5 by performing :
6 releasing the one or more blocks of memory.
- 1 36. (original) The computer-readable medium of claim 34, wherein execution of the
2 instructions by the one or more processors causes the one or more processors to
3 perform determining whether the first application configuration information is
4 referenced by at least one pending process by performing :
5 determining whether a reference count associated with the first application
6 configuration information is equal to a predetermined value indicating that
7 no processes are referencing the first application configuration
8 information.

1 37. (original) The computer readable medium of claim 36, wherein execution of the
2 instructions by the one or more processors causes the one or more processors to
3 perform determining that the second application configuration successfully
4 initialized based on a communication from an application runtime environment.

1 38. (currently amended) An apparatus on which one or more applications execute, wherein
2 a first application configuration is defined by first application configuration
3 information, the first application configuration providing for execution of the
4 application, the apparatus comprising:

5 a network interface;

6 a memory; and

7 one or more processors connected to the network interface and the memory, the one or
8 more processors configured for

9 wherein a first application configuration is defined by first application configuration
10 information, the first application configuration information specifying
11 application classes for execution of the application according to the first
12 application configuration;

13 reading second application configuration information defining a reconfigured version of
14 the application, the second application configuration information specifying
15 application classes for execution of the application according to the reconfigured
16 version of the application;

17 constructing a second application configuration based on the second application
18 configuration information; and

19 providing the second application configuration to an application runtime environment
20 for servicing new requests related to the application while maintaining the first

21 application configuration for servicing, concurrently with the servicing of new
22 requests based on the second application configuration, existing requests related
23 to the application.